

## HOW TO WORK IN THE ISS NETWORK?

Each ISS combines intrinsic value and complementarity with other ISSs, thus ISSs are useful for two reasons: (i) based on local environmental heterogeneity and gradients, it is possible to study the influence of the environment and/or management practices on the dynamics of diversity within each type of ecosystem; (ii) the drivers of diversity in different ecological regions can be compared across ISSs. The ISSs also host short- and long-term experiments such as irrigation and reciprocal transplantations.



A framework agreement defines the ISS management structure, modalities for metadata, and data supply and access policy. Each ISS has a local correspondent in charge of managing the ISS information system and facilitating research activities, by interacting with local managers and providing logistic support.

**Before a new project is implemented:** in order to access an ISS infrastructure and resources (data, samples, experiments), partners must accept the terms of the framework agreement. The ISS coordinator or local correspondent must be contacted before submitting a project, in order to discuss protocols, make contact with local managers, and establish possible additional research partnerships as needed.

**During the project:** the ISS correspondent facilitates access to the ISS resources, while partners are expected to provide feedback based on their research experience within the ISS, thus contributing to improving the infrastructure.

**When results are generated:** data and metadata supply and access policies are applied as defined in the framework agreement. All publications should acknowledge that they have benefited from an ISS infrastructure.

Currently, EVOLTREE has 24 members from 13 European countries, working on forest ecosystem genomics, which combines genetics, genomics, ecology and evolutionary biology, in order to study gene-level responses to biotic and abiotic pressures on forests. Research organisations interested in joining EVOLTREE can contact the EVOLTREE administrator.



### HOW TO CONTACT THE ISS NETWORK

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# evoltree

## INTENSIVE STUDY SITES (ISSs)



EVOLUTION OF TREES AS DRIVERS  
OF TERRESTRIAL BIODIVERSITY  
LAUNCHED AS AN EU-FUNDED NETWORK OF  
EXCELLENCE IN APRIL 2006, EVOLTREE HAS BEEN  
FUNCTIONING AS A EUROPEAN RESEARCH GROUP  
SINCE JANUARY 2011

## WHAT IS AN INTENSIVE STUDY SITE (ISS)?

An ISS is a large-scale ecosystem plot, a few thousands of hectares in size, where significant samples of trees and associated species are progressively mapped, genotyped and phenotyped. The sites encompass entire portions of landscapes, where trees are present in different configurations (from continuous cover, to single trees, forest edges and woodlots).

The objectives of the ISSs are:

- to set up a European network of sites for long-term research on the evolution of biodiversity at different hierarchical levels (from genes to phenotypes, from populations to community)
- to assess the spatial structure of biodiversity at various scales and at different hierarchical levels
- to monitor population dynamics through demographic and genetic approaches, in trees and their associated species
- to monitor the interaction between species (trees, other plants, vertebrates, insects, and microorganisms)
- to provide facilities for training, education and dissemination activities



## WHERE ARE THEY?

A total of five ISSs covering representative tracts of boreal, temperate, Mediterranean, alpine, and riparian forest ecosystems have been selected. In addition, the network includes two other sites with contrasting conditions regarding management approaches: a completely untouched and an intensively managed forest ecosystem.



From North to South:

- **Punkaharju** (Finland): northern temperate and boreal forest with *Acer*, *Alnus*, *Betula*, *Populus*, *Prunus*, *Quercus* (introd.), *Salix*, *Sorbus*, *Tilia*, *Picea*, *Pinus*, *Abies* (introd.), *Larix* (introd.)
- **Blizyn** (Poland): continental temperate untouched forest with *Acer*, *Alnus*, *Betula*, *Carpinus*, *Corylus*, *Crataegus*, *Fagus*, *Fraxinus*, *Populus*, *Prunus*, *Quercus*, *Salix*, *Sorbus*, *Tilia*, *Ulmus*, *Picea*, *Pinus*, *Abies*, *Larix*
- **Solling** (Germany): continental temperate managed forest with *Betula*, *Fagus*, *Quercus*, *Larix*, *Picea*, *Pinus*
- **Loire** (France): riparian forest with *Acer*, *Alnus*, *Castanea*, *Corylus*, *Crataegus*, *Fraxinus*, *Populus*, *Prunus*, *Quercus*, *Salix*, *Tilia*, *Ulmus*
- **Valais** (Switzerland): altitudinal gradient from lowland to treeline forests in the Alps, with *Acer*, *Alnus*, *Betula*, *Corylus*, *Fraxinus*, *Populus*, *Prunus*, *Quercus*, *Salix*, *Sorbus*, *Tilia*, *Ulmus*, *Picea*, *Pinus*, *Abies*, *Larix*
- **Landes** (France): intensively managed *Pinus* forest. Deciduous forests with *Alnus*, *Betula*, *Castanea*, *Corylus*, *Crataegus*, *Fagus*, *Fraxinus*, *Prunus*, *Quercus*, *Salix* and *Sorbus* occur as small patches or as riparian forest
- **Ventoux** (France): Mediterranean and South alpine forest with *Acer*, *Alnus*, *Betula*, *Castanea*, *Carpinus*, *Corylus*, *Crataegus*, *Fagus*, *Quercus*, *Sorbus*, *Abies*, *Cedrus*, *Larix* (introd.), *Picea* (introd.), *Pinus* (native + introd. spp.)

## WHERE CAN WE FIND INFORMATION ABOUT THE ISSs?

The ISS Information System ([www.evoltree.eu/geonetwork/](http://www.evoltree.eu/geonetwork/)) provides access to metadata allowing different datasets to be explored and shared. Following the EU directive INSPIRE and the ISO 19139 metadata standard, the system enables the querying of metadata using different criteria: geographic location, data categories (maps, datasets, pictures, etc.) or keywords from any field of the metadata template. The system includes:

- general information on the sites and reference to publications
- information on research activities conducted within the ISS
- information on permanent plots or transects installed within the ISS
- information on permanent experiments, such as large tree samples accurately georeferenced and tagged, from which DNA material has been collected and deposited in the common repository centre of EVOLTREE

## LOCATION OF THE EVOLTREE INTENSIVE STUDY SITES IN DIFFERENT FOREST ECOSYSTEMS

- Boreal: Punkaharju (Finland)
- Temperate: Solling (Germany)
- Untouched: Blizyn (Poland)
- Riparian: Middle Loire (France)
- Alpine: Valais (Switzerland)
- Intensively managed: Landes (France)
- Mediterranean: Ventoux (France)

